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ABSTRACT

Nine groups of undergraduate students were formed on the basis of one-third splits of the distributions of their scores on an internality-externality measure and on an achievement motive measure. Academic performance was measured by obtaining grade point averages for all subjects. Analysis of variance showed that internal students made higher grades when compared to external students and that students with high levels of achievement motive made better grades than did students with low levels of achievement motive. Grade differences between high and low achievement motive groups were significant among the internal students but not among the external students. (Author)

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ACADEMIC PERFORMANCE RELATED TO ACHIEVEMENT MOTIVE AND LOCUS OF CONTROL

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Attempts to demonstrate relationships between achievement motive and academic performance or between locus of control and academic performance have found an inconsistent pattern of results.

Achievement motivation theory suggests that individuals with high levels of achievement motive will show academic performance superior to that of individuals with low levels of achievement motive. Studies using either projective or objective measures of achievement motivation have sometimes reported a positive relationship between high levels of achievement motive and academic performance but have more often failed to find any relationship (Atkinson & Feather, 1966; Batlis & Waters, 1973; Brown, 1974; Farley, 1972; Kight & Sassenrath, 1966).

Locus of control theory suggests that relatively internal persons will show superior performance when compared to relatively external persons. Support for this suggestion has been marginal at best from studies using Rotter's (1966) Internal-External Scale as the measure of locus of control (Bass, Ollendick, & Vuchinich, 1974; Batlis & Waters, 1973; Boor, 1973; Gold, 1968; Hjelle, 1970, Hohmuth & Ramos, 1973; Warehime, 1972).

The Internal-External Scale was developed as a very broad gauge instrument not for use in relatively specific environments such as the academic environment (Rotter, 1975). It has been suggested that the lack of demonstrated relationship between internality and academic performance may be in part due to the lack of generalizability of the measure (Hjelle, 1970). Crandall, Katkovsky, and Preston's (1962) Children's Intellectual Achievement Responsibility Questionnaire (CIAR) was designed specifically to measure locus of control in the academic environment. McGhee and Crandall (1968) found that students in the third through the twelfth grades who scored internal on the CIAR did make better grades than did external students. Prociuk and Breen (1973), who modified the CIAR for use with college students, failed to find any significant correlation between locus of control and grades. This failure may have been due in part to the existence of a large number of college students who were originally highly internal but who have arrived at an external viewpoint as a defense against failure (Hjelle, 1970; Rotter, 1966).

Maehr and Sjogren (1971) have suggested that achievement motives remain latent until the person views himself as being responsible for achieving or failing to achieve. If this were the case, one would expect to find superior academic performance associated with high levels of achievement motive among relatively internal students, but not among relatively external students. This hypothesis has received some support. Fanelli (1973) found that superior performance on a digit/symbol substitution task was associated with high levels of achievement motive among internal subjects, but superior performance was associated

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with low levels of achievement motive among external subjects. Wolk and du Cette (1973) correlated achievement motive level with performance on midterm and final exam grades. No significant correlation was found among the external students, but achievement motive level did correlate positively with exam grades among the internal students.

The present research proposed an investigation of both achievement motive and locus of control as related to academic performance in male college students. The population was restricted to male students because past studies testing predictions from both achievement motivation and locus of control theories have generally been more successful with male subjects than with female subjects. Three hypotheses were made:

1. Relatively internal subjects will show superior academic performance when compared to relatively external subjects.

2. Subjects with high levels of achievement motive will perform better than subjects with low levels of such motive.

3. High achievement motive level will be accompanied by superior academic performance among relatively internal subjects but not among relatively external subjects.

METHOD

Subjects

A total of 214 male subjects was recruited from undergraduate psychology classes at East Carolina University. Thirteen of these subjects were dropped from the observation due to failure to follow instructions on the tests given, failure to complete all items on the tests, or having received incomplete test materials. Five subjects who were graduate students and one who was not registered for credit were also dropped, since no dependent variable information was available for them. Final statistical analyses were performed on data from 196 undergraduate students.

Instruments

Achievement motive was measured with Mehrabian's (1968, 1969) need for achievement (nAch) scale. For information regarding the content, reliability, and validity of this scale the reader is referred to Mehrabian (1968, 1969), Weiner and Potepan (1970), and Cohen, Reid, and Boothroyd (1973).

Locus of control was measured with Weiner and Potepan's (1970) modified version (IAR) of the CIAR appropriate for use with college populations.

Procedure

During a regular class session, subjects were given the IAR scale, told to read the accompanying instructions, asked not to talk with one another or look at

each other's answers, and requested to complete the questionnaire. Following completion, all tests were collected and the nAch scale was administered in a similar fashion. Total testing time was approximately 30 minutes.

All tests were scored according to instructions provided by Weiner (1974). The two resulting frequency distributions were each divided as nearly as possible into equal thirds. On the basis of the split of the nAch distribution, each subject was classified as scoring high, intermediate, or low on achievement motive. Each subject was similarily classified as scoring high, intermediate, or low on the IAR. Grade point averages (GPAs), the measure of academic performance, were obtained from student records at the end of the quarter.

RESULTS AND CONCLUSIONS

Mean GPAs for each of the nine groups are presented in Table 1. As level of measured nAch increased among the nine groups, mean GPA also increased. With the exception of the three low nAch groups, GPA was also observed to increase with movement towards the internal (high) end of the IAR dimension.

TABLE 1

Mean Grade Point Averages

		nAch		
		Low	Intermediate	High
IAR	Low	2.22	2.25	2.45
	Intermediate	2.40	2.49	2.63
	High	2.18	2.52	2.73

The ANOVA (Table 2) applied to these data yielded significant F-ratios for both the nAch and the IAR factors. It was concluded that relatively internal students showed superior academic performance when compared to relatively external students and that subjects with high levels of achievement motive performed better than subjects with low levels of such motive.

TABLE 2

Summary Table for Analysis of Variance

Source	SS	df	MS	F
Among	56.25			
IAR	1.79	2	0.895	3.35*
nAch	3.62	2	1.810	6.76**
Interaction	0.85	4	0.213	0.79
Within	50.00	187	0.267	
Total	56.25	195		

*$p < .05$

**$p < .01$

A Duncan Range Test showed that subjects in the high IAR-high nAch group achieved significantly higher GPAs ($p < .01$) than did subjects in the high IAR-low nAch, low IAR-low nAch, or low IAR-intermediate nAch groups. All other group differences were nonsignificant. That is, among the highly internal subjects, increased level of nAch was accompanied by significantly higher academic performance; no such significant effect occurred among the relatively external (low IAR) subjects. These results were interpreted as providing limited support for the hypothesis that high level of nAch is accompanied by superior academic performance among relatively internal subjects but not among relatively external subjects.

DISCUSSION

The finding that nAch was accompanied by higher grades among only the relatively internal subjects is in agreement with the results of Fanelli's (1973) and Wolk and du Cette's (1973) studies and lends support to the suggestion made by Maehr and Sjogren (1971) that achievement motives are engaged only when the student sees himself as responsible for succeeding or failing.

One implication of the present results is that both nAch and locus of control

measures could be conjunctively used as predictors of academic performance. When combined with other more commonly used predictors, such as intelligence tests, scholastic aptitude tests, and high school grades, prediction could be greatly improved over present practices. It must be cautioned, however, that strength of association measures indicate that the proportion of total variance in GPA explained by the nAch and IAR factors is relatively small. For example, among the internal subjects, where the nAch-GPA association was strongest, the coefficient of determination, r^2, was 0.11. In other words, nAch accounted for only 11% of the observed variance in GPAs. For comparison purposes, one might note that correlations between intelligence test and GPAs usually approximate r equals 0.50 (Weiner, 1972), accounting for 25% of the GPA variance. The practical use of achievement motive and locus of control measures as predictors of academic performance may depend upon the development of more sensitive measuring devices.

It may be possible to modify individual's perceived locus of control. Foulds, Guinan, and Warehime (1974) were successful in using a marathon growth group to increase internality of college students' locus of control. Given the results of the present study, such enhancement of internality might be expected to lead to enhanced academic performance, at least among those students with an already high level of nAch. With this general notion in mind, Reimanis (1971) used counseling sessions in an attempt to modify towards internal the locus of control of externally oriented community college students. Although these sessions were apparently successful, their effect dissipated with time.

Even if it is not possible to significantly alter an individual's predisposition towards attributing causality, academic performance might be enhanced by arranging situational factors such that it is difficult for the student to conclude other than that his success or failure is contingent upon his own behaviors, not upon external factors.

Even though achievement motive is conceptualized as a relatively permanent personality attribute, attempts have been made to raise academic performance by raising the level of achievement motive among students (McClelland, 1972). Results of the present study would indicate that such efforts may be successful only among relatively internal students, or when coupled with modification of locus of control.

McClelland (1951) stressed the importance of situational cues in arousing previously learned motives such as the achievement motive. Thus, it might be expected that structuring the academic situation to provide a maximum of achievement related cues would lead to enhanced performance. Research conducted in industrial settings has demonstrated that such situational cues can have short-term effects upon performance (Hall & Lawler, 1970) and long-term effects on needs (Breer & Locke, 1965, Kornhauser, 1965). Similar research in college settings is suggested, especially where both personality and situational factors relating to both nAch and locus of control could be investigated.

It might be expected that attempts to modify locus of control and level of nAch would be more successful and long lasting with children than with adults. Level of nAch has been shown to be largely determined by certain types of childhood experiences (Winterbotton, 1953). Accordingly, it is suggested that any such

modification attempts be focused on children and young adults for maximal impact.

A few suggestions for future research will be made in closing. The present study made no formal attempts to control for intelligence differences between groups. Past studies have generally found little or no relationship between nAch and intelligence (Mahone, 1960; Smith, 1964) or between locus of control and intelligence (Rotter, 1966). One would, however, feel more sure about the relationships indicated if intelligence had been statistically or otherwise controlled. It is also suggested that future research be conducted with female as well as with male subjects. Some such research is presently in progress.

Lastly, it is suggested that dimensions other than that of locus of control be investigated as possible moderators of the nAch-academic performance relationship. For example, Raynor (1970) has shown that the perceived instrumentality of a course (how necessary the course is for the student's future career success) is a moderator of the nAch-academic performance relationship.

REFERENCES

Atkinson, J. W., & Feather, N. T. (Eds.). A theory of achievement motivation. New York: Wiley, 1966.

Bass, B. A., Ollendick, T. H., & Vuchinich, R. E. Study habits as a factor in the locus of control-academic achievement relationship. Psychological Reports, 1974, 34, 906.

Batlis, N. C., & Waters, L. K. Locus of control and achievement motivation as moderators of the expectancy-academic performance relationship. Educational and Psychological Measurement, 1973, 33, 895-902.

Boor, M. Dimensions of internal-external control and academic achievement. The Journal of Social Psychology, 1973, 90, 163-164.

Breer, P. E., & Locke, E. A. Task experience as a source of attitudes. Homewood, Ill.: Dorsey Press, 1965.

Brown, M. Motivational correlates of academic performance. Psychological Reports, 1974, 34, 746.

Cohen, L., Reid, I., & Boothroyd, K. Validation of the Mehrabian need for achievement scale with college of education students. British Journal of Educational Psychology, 1973, 43, 269-278.

Crandall, V. J., Katkovsky, W., & Preston, A. Motivational and ability determinants of young children's intellectual achievement behaviors. Child Development, 1962, 33, 643-661.

Fanelli, G. C. Effect of locus of control and need achievement on performance, self-rating, and attribution of responsibility. Proceedings of the 81st Annual Convention of the American Psychological Association, 1973, 8, 607-608.

Farley, F. H. A note on resultant achievement motivation measures and scholastic attainment. Educational and Psychological Measurement, 1972, 32, 495-497.

Foulds, M. L., Guinan, J. F., & Warehime, R. G. Marathon group: Changes in perceived locus of control. Journal of College Student Personnel, 1974, 15. 8-11.

Gold, D. Some correlation coefficients: Relationships among I-E scores and other personality variables. Psychological Reports, 1968, 22, 983-984.

Hall, D. T., & Lawler, E. E. Job design and job pressures as facilitators of professional-organization integration. Administrative Science Quarterly, 1970, 15, 271-281.

Hjelle, L. A. Internal-external control as a determinant of academic achievement. Psychological Reports, 1970, 26, 326.

Hohmuth, A. V., & Ramos, R. A. Locus of control, achievement, and failure among disadvantaged college students. Psychological Reports, 1973, 33, 573-574.

Kight, H. R., & Sassenrath, J. M. Relation of achievement motivation and test anxiety to performance in programmed instruction. Journal of Educational Psychology, 1966, 57, 14-17.

Kornhauser, A. Mental health of the industrial worker: A Detroit study. New York: Wiley, 1965.

Maehr, M., & Sjogren, D. Atkinson's theory of achievement motivation: First step toward a theory of academic motivation? Review of Educational Research, 1971, 41, 143-161.

Mahone, C. H. Fear of failure and unrealistic vocational aspiration. Journal of Abnormal and Social Psychology, 1960, 60, 253-261.

McClelland, D. C. Personality. New York: Sloane, 1951.

McClelland, D. C. What is the effect of achievement motivation training in the schools? Teachers College Record, Columbia University, 1972, 74, 129-145.

McGhee, P. E., & Crandall, V. C. Beliefs in internal-external control of reinforcements and academic performance. Child Development, 1968, 39, 91-102.

Mehrabian, A. Male and female scales of the tendency to achieve. Educational and Psychological Measurement, 1968, 28, 493-502.

Mehrabian, A. Measures of achieving tendency. Educational and Psychological Measurement, 1969, 29, 445-451.

Prociuk, T. J., & Breen, L. J. Internal-external control, test anxiety and academic achievement: Additional data. Psychological Reports, 1973, 33, 563-566.

Raynor, J. O. Relationships between achievement-related motives, future orientation, and academic performance. Journal of Personality and Social Psychology, 1970, 15, 28-33.

Reimanis, G. Effects of experimental IE modification techniques and home environment variables on EI. Paper presented at APA Convention, Washington, D.C., 1971.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, (1, Whole No. 609).

Rotter, J. B. Some problems and misconceptions related to the construct of internal versus external control of reinforcement. Journal of Consulting and Clinical Psychology, 1975, 43, 56-67.

Smith, C. P. Relationships between achievement-related motives and intelligence, performance level, and persistence. Journal of Applied and Social Psychology, 1964, 68, 523-533.

Warehime, R. G. Generalized expectancy for locus of control and academic performance. Psychological Reports, 1972, 30, 314.

Weiner, B. Theories of motivation. Chicago: Rand McNally, 1972.

Weiner, B. Personal communication, March, 1974.

Weiner, B., & Potepan, P. A. Personality characteristics and affective reactions toward exams of superior and failing college students. Journal of Educational Psychology, 1970, 61, 144-151.

Winterbottom, M. R. The relation of childhood training in independence to achievement motivation. University of Michigan Microfilms, publication No. 5113. Cited by D. C. McClelland et al., The achievement motive. New York: Appleton-Century, 1953.

Wolk, S., & du Cette, J. The moderating effect of locus of control in relation to achievement-motivation variables. Journal of Personality, 1973, 41, 59-70.